

REMARKS

Claims 1-3 and 5- 39 are pending. Claim 4 has been cancelled. Favorable reconsideration is respectfully requested in light of the following remarks. Applicants request withdrawal of the outstanding objections and rejections, and allowance of the claims.

I. Rejection under 35 U.S.C. §112, 2nd paragraph

In the outstanding office action, the Examiner rejected claim 29 for insufficient antecedent basis. Claim 29 has been amended to consistently use the term "back electrode coating layer". Such amendment overcomes the rejection and Applicants request withdrawal of the rejection under 35 U.S.C. §112.

II. Rejection under 35 U.S.C. §102(b)

In the outstanding office action, the Examiner rejected claim 29 under 35 U.S.C. §102(b) as being anticipated by Matsuyama et al. (U. S. Pat. 5,714,010) hereinafter "the Matsuyama et al. reference").

Claim 29 has been amended to recite depositing an active crystalline semiconductor junction having a p-type layer and an n-type layer onto the back electrode coating layer under process conditions that avoid substantial degradation of the polymer substrate in which the depositing of the n-type layer is carried out with a sputtering process.

The Matsuyama et al. reference discloses a process for depositing "amorphous" semiconductor materials using a microwave chemical vapor deposition process. The Matsuyama et al. process for making amorphous silicon solar cells is fundamentally different from the claimed process for depositing an active crystalline semiconductor junction using a sputtering for depositing of an n-type layer onto an electrode layer. Further, the Examiner admits in the instant Office Action (at page 20, 3rd paragraph) that Matsuyama et al. does not disclose depositing the active semiconductor junction by sputtering.

Therefore, at least for this reason the Matsuyama et al. reference fails to teach or suggest the invention defined in the claims. Accordingly, Applicants request withdrawal of the rejection under 35 U.S.C. §102(b).

III. Rejection under 35 U.S.C. §102(e)

In the outstanding office action, the Examiner rejected claims 35, 37 and 39 as being anticipated by Compaan et al. (U. S. Pat. No. 6,852,614 B1) and claim 36 is rejected as being obvious over Compaan et al. in view of Matsuyama et al.

The attached Statement of Common Ownership shows that both the instant application, Ser. No.10/722,643, filed November 26, 2003, and the Compaan et al. US Patent 6,852,614 B1 (Ser. No. 09/815,958 filed March 23, 2001) were, at the time the invention of the instant application (Ser. No. 10/722,643) was made, owned by the University of Toledo. Attached thereto as evidence of common ownership are copies of the following documents:

Exhibit A - the recorded Assignment of the Compaan et al. US Patent 6,852,614 B1 (Ser. No. 09/815,958 filed March 23, 2001) to the University of Toledo, recorded at Reel/Frame 012115/0351;

Exhibit B – the recorded Assignment of the instant application, Ser. No.10/722,643, filed November 23, 2003, to the University of Toledo, recorded at Reel/Frame 014748/0651; and,

Exhibit C – the Certificate of Correction showing the correct Assignee, the University of Toledo for the Compaan et al '614 patent.

Also, as requested by the Examiner, attached hereto is a Terminal Disclaimer over the Compaan et al '614 patent.

Accordingly, Applicants submit the Statement of Common Ownership and its Exhibits, and the Terminal Disclaimer overcome this rejection and the Applicants respectfully request withdrawal of the rejection under 35 U.S.C. §102(e).

IV. Rejections under 35 U.S.C. §103

A. Rejection of claims 1-4 and 6-28 under 35 U.S.C. §103(a) over Oswald et al. (US Pat. Pub. 2003/0180983 A1) (hereinafter "Oswald et al.") in view of Matsuyama et al.

Independent claims 1, 15 and 23 have been amended to recite a method of making a diode structure where an active polycrystalline semiconductor junction has an n-type layer and a p-type layer. The depositing of the n-type layer is carried out with a sputtering process. Until the present invention there has been no method for a depositing a layer of a semiconductor junction material using a sputtering process. The sputtering process can be performed at desirably lower temperatures such that the transparent electrode layer of ZnO, ZnS or CdO material is not damaged.

Oswald et al. also fails to disclose or suggest the use of polycrystalline materials or to disclose or suggest the use of a sputtering deposition of at least the n-type layer for making a diode structure. Oswald et al. relates to a laser scribing method. The Examiner has admitted in the instant Office Action (at page 5, 4th paragraph) that Oswald et al. does not disclose "the process conditions under which semiconductor layer is formed".

Further, with respect to the independent claims 15 and 23, the Examiner also admits in the instant Office Action (at page 10, lines 1 – 2 and page 14, lines 1-3) that Oswald et al. does not disclose that "the substrate is flexible".

As set fully forth above, Matsuyama et al. relates to amorphous materials which are very distinct from the polycrystalline materials used in the present inventive method.

Matsuyama et al. also fails to disclose or suggest the use of a sputtering deposition of at least the n-type layer for making a diode structure. Further, the temperature values taught by Matsuyama et al. relate to an entirely different process, i.e., the microwave chemical vapor deposition process, not to a process for depositing a crystalline semiconductor material using a sputtering process to at relatively low temperatures. The present invention substantially prevents degradation of the transparent as ZnO ZnS and CdO electrode layers. Thus, the present invention

prevents a substantial loss of the optical transmission quality or the current carrying capacity, or both the optical transmission quality and the current carrying capacity, of the transparent electrode layer.

Therefore, at least for these reasons the cited references fail to teach or suggest the invention defined in the claims. Accordingly, Applicants request withdrawal of the rejection under 35 U.S.C. §103.

Since the independent claims 1, 15 and 23 have been shown to be patentable over applied references, at least for this reason the dependent claims are also patentable over those references. Applicants contend that all the claims are patentable over the cited references and request withdrawal of the rejections under 35 U.S.C. §103.

B. Rejection of Claim 5 over Oswald et al. in view of Matsuyama et al. as applied to claims 1-4 and 6-28 above, and further in view of Gordillo et al. Influence of the Optical Window on the Performance of TCO/CdS/CdTe Solar Cells Phys. Stat. Sol. (b) 220, 215 (2000).

Claim 5 depends from amended independent claim 1 which sets forth that the n-layer is deposited using a sputtering process. The patentability of claim 1 has been fully set forth above where.

Claim 5 has been amended to recite that the p-type layer is deposited with one of more of an electro deposition process, a chemical bath deposition process, and a high temperature vapor deposition process.

Oswald et al. relates to a laser scribing method and does not teach or suggest the present inventive method of sputtering at least the n-layer of a semiconductor junction material. The Examiner has admitted (at page 17, last paragraph) that Oswald et al. does not disclose any of the following:

"the process conditions under which the semiconductor layer is formed";
"depositing the n-type layer carried out with a sputtering process"; and
"depositing the p-type layer with one or more of electro deposition, a chemical bath deposition process, and a high temperature vapor deposition process."

As set fully forth above, Matsuyama et al. fails to disclose or suggest the use of polycrystalline materials. Also, the Matsuyama et al fails to disclose or suggest the use of a sputtering deposition of at least the n-type layer for making a diode structure.

Gordillo et al. relates to making a diode structure by depositing the n-type layer by a chemical bath deposition, and then depositing a p-type layer by a high temperature bath deposition. The high temperature deposition of the p-layer described in Gordillo et al. would cause damage and substantial degradation of the electrode layer. Neither of the two different methods used in the Gordillo et al. for the deposition of the n-type layer and the p-type layer relate to depositing of the n-type layer with a sputtering process.

Therefore, at least for these reasons the cited references fail to teach or suggest the invention defined in claim 5. Accordingly, Applicants request withdrawal of the rejection under 35 U.S.C. §103.

C. Rejection of Claims 30-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuyama et al. in view of Oswald et al.

Claims 30 - 34 depend from amended independent claim 29. The patentability of claim 29 has been fully set forth above. Also, as set fully forth above, Matsuyama et al. fails to disclose or suggest the use of polycrystalline materials. Matsuyama et al. fails to disclose or suggest the use of a sputtering deposition of at least the n-type layer for making a diode structure. The Examiner admits (at page 20, 3rd paragraph) that Matsuyama et al. does not disclose “depositing the active semiconductor junction by sputtering”.

Further, the temperature values taught by Matsuyama et al. relate to an entirely different process, i.e., the microwave chemical vapor deposition of amorphous material. Until the present invention there has been no method for a depositing a layer of a semiconductor junction material using a sputtering process. The sputtering process can be performed at desirably lower temperatures such that the transparent electrode layer of ZnO, ZnS or CdO material is not damaged.

As set fully forth above, Oswald et al. also fails to disclose or suggest the use of polycrystalline materials or to disclose or suggest the use of a sputtering deposition of at least the n-type layer for making a diode structure.

Conclusion

In view of the above amendments and remarks, Applicants have shown that the claims are patentably distinct over the cited references and the invention, as defined in the claims, is patentably distinct. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections of record, and allowance of all claims.

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify that this document is being deposited with the U. S. Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date set forth below.

(signature)

(Date of signature and deposit)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Alvin D. Compaan et al.)	
)	
Confirmation No.: 7328)	Docket No. 1-24016
Serial No.: 10/722,643)	
)	
Filed: November 26, 2003)	Group Art Unit: 2814
)	
For: Method of Making Diode Structures)	
)	Examiner: Ginette Peralta

Mail Stop Amendment
Commissioner For Patents
Alexandria, VA 22313-1450

Statement of Common Ownership

The instant application, Ser. No. 10/722,643, filed November 26, 2003, and the Compaan et al. US Patent 6,852,614 B1 (Ser. No. 09/815,958 filed March 23, 2001) were, at the time the invention of Ser. No. 10/722,643 was made, owned by the University of Toledo.

Attached hereto as evidence of common ownership are copies of:

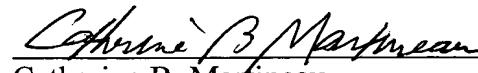
Exhibit A - the recorded Assignment of the Compaan et al. US Patent 6,852,614 B1 (Ser. No. 09/815,958 filed March 23, 2001) to the University of Toledo, recorded at Reel/Frame 012115/0351, 7 pages;

Exhibit B – the recorded Assignment of the instant application, Ser. No. 10/722,643, filed November 26, 2003 to the University of Toledo, recorded at Reel/Frame 014748/0651; and

Exhibit C – the Certificate of Correction showing the correct Assignee, the University of Toledo for the Compaan et al '614 patent.

If any fees are due in connection with the filing of this response, including any fee for a required extension of time under 37 CFR 1.136(a) for which Applicant hereby petitions, please charge all necessary fees to Deposit Account No. 13-0005.

Respectfully submitted,



Catherine B. Martineau
Registration No. 31,854

Date: 30 September 2005
MacMillan, Sobanski & Todd, LLC
One Maritime Plaza, Fourth Floor
720 Water Street
Toledo, Ohio 43606
419-255-5900

EXHIBIT

A

FORM PTO-1595 (Modified)
(Rev. 6-93)
OMB No. 0651-0011 (Exp. 4/94)
Copyright 1994-97 LegalStar
PO8/REVO2

Doctet No.: 1-22335

08-31-2001

HEET

U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

Tab settings ➡ ➡ ➡ ➡ ➡

To the Honorable Commissioner of F

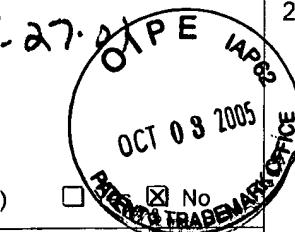
101829803



Marks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

Alvin D. Compaan,
Kent J. Price,
Xianda Ma, and
Konstantin Makhratchev



Additional names(s) of conveying party(ies)

 No
 Yes

3. Nature of conveyance:

<input checked="" type="checkbox"/> Assignment	<input type="checkbox"/> Merger
<input type="checkbox"/> Security Agreement	<input type="checkbox"/> Change of Name
<input type="checkbox"/> Other _____	

Execution Date: 6/17/01, 6/18/01, 7/24/01, and 7/25/01

2. Name and address of receiving party(ies):

Name: University of Toledo

Internal Address: _____

AUG 27 2001

Street Address: 2801 Bancroft Street

City: Toledo State: OH ZIP: 43606

Additional name(s) & address(es) attached? Yes No

4. Application number(s) or registration numbers(s):

If this document is being filed together with a new application, the execution date of the application is: _____

A. Patent Application No.(s)

09/815,958

B. Patent No.(s)

Additional numbers attached? Yes No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Ted C. Gillespie

Internal Address: MacMillan, Sobanski & Todd, LLC

One Maritime Plaza, Fourth Floor

Street Address: 720 Water Street

08/31/2001 AAHMED1 00000036 130005 09815958

01 FC:581 40.00 CH

City: Toledo State: OH ZIP: 43604

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41):\$ 40.00

Enclosed - Any excess or insufficiency should be credited or debited to deposit account

Authorized to be charged to deposit account

8. Deposit account number:

13-0005

9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Ted. C. Gillespie, Reg. No. 27,981

August 23, 2001

Name of Person Signing

Signature

Date

Total number of pages including cover sheet, attachments, and document: 7

ASSIGNMENT

WHEREAS, we, Alvin D. Compaan of 4526 Vicksburg, Sylvania, OH 43560, Kent J. Price, 606 Gramercy, Toledo, OH 43612, Xianda Ma of 685 Lexington St., Milpitas, CA 95035, and Konstantin Makhratchev of 40902 Inglewood Cmn, Fremont, CA 94538, have invented an invention entitled SEMICONDUCTOR HAVING GROUP II-GROUP VI COMPOUNDS DOPED WITH NITROGEN, for which we have executed an application for United States Letters Patent;

AND WHEREAS, the University of Toledo, 2801 Bancroft Street, Toledo, Ohio 43606-3390, is desirous of acquiring the entire interest in and to said invention and any Letters Patent to issue therefore;

NOW, THEREFORE, to all whom it may concern, be it known that for and in consideration of the sum of One Dollar (\$1.00) and other valuable considerations to me in hand paid, the receipt whereof is hereby acknowledged, we, Alvin D. Compaan, Kent J. Price, Xianda Ma and Konstantin Makhratchev do hereby sell, assign and transfer unto the said University of Toledo, its successors or assigns, the entire right, title and interest in and to said application and invention in the United States and all countries foreign thereto, including the right of priority under the International Convention of 1883 and later modifications thereof, and to any Letters Patent to issue therefor, and I hereby request the Commissioner of Patents and Trademarks of the United States to issue to the University of Toledo any Letters Patent thereon, in accordance with the terms of this assignment.

We agree to execute any and all documents required by the University of Toledo, its successors or assigns, for the prosecution of said application, or of any division, reissue or continuation thereof, or for securing foreign patents covering said invention, and also any documents required by it, its successors or assigns, more fully to vest in it or them the title to said invention, or to any application or patent that may be filed therefor or secured thereon. We hereby irrevocably appoint the University of Toledo as our attorney in fact to execute any documents on my

behalf for procuring in its name and ownership patents in all countries for the invention.

Alvin D. Compaan
Alvin D. Compaan

Date: June 17, 2001

Wenhui Du
Witness (WENHUI DU)

Kent J. Price
Kent J. Price

Date: June 18, 2001

Cheryl Sautter
Witness

Xianda Ma

Date: _____

Witness

Konstantin Makhratchev

Date: _____

Witness

ASSIGNMENT

WHEREAS, we, Alvin D. Compaan of 4526 Vicksburg, Sylvania, OH 43560, Kent J. Price, 606 Gramercy, Toledo, OH 43612, Xianda Ma of 685 Lexington St., Milpitas, CA 95035, and Konstantin Makhratchev of 40902 Inglewood Cmn, Fremont, CA 94538, have invented an invention entitled SEMICONDUCTOR HAVING GROUP II-GROUP VI COMPOUNDS DOPED WITH NITROGEN, for which we have executed an application for United States Letters Patent;

AND WHEREAS, the University of Toledo, 2801 Bancroft Street, Toledo, Ohio 43606-3390, is desirous of acquiring the entire interest in and to said invention and any Letters Patent to issue therefore;

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behalf for procuring in its name and ownership patents in all countries for the invention.

Alvin D. Compaan

Date: _____

Witness

Kent J. Price

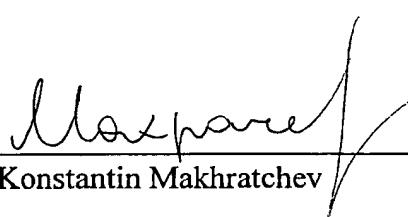
Date: _____

Witness

Xianda Ma

Date: _____

Witness



Konstantin Makhratchev

Date: 25/July/01

Witness

ASSIGNMENT

WHEREAS, we, Alvin D. Compaan of 4526 Vicksburg, Sylvania, OH 43560, Kent J. Price, 606 Gramercy, Toledo, OH 43612, Xianda Ma of 685 Lexington St., Milpitas, CA 95035, and Konstantin Makhratchev of 40902 Inglewood Cmn, Fremont, CA 94538, have invented an invention entitled SEMICONDUCTOR HAVING GROUP II-GROUP VI COMPOUNDS DOPED WITH NITROGEN, for which we have executed an application for United States Letters Patent;

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NOW, THEREFORE, to all whom it may concern, be it known that for and in consideration of the sum of One Dollar (\$1.00) and other valuable considerations to me in hand paid, the receipt whereof is hereby acknowledged, we, Alvin D. Compaan, Kent J. Price, Xianda Ma and Konstantin Makhratchev do hereby sell, assign and transfer unto the said University of Toledo, its successors or assigns, the entire right, title and interest in and to said application and invention in the United States and all countries foreign thereto, including the right of priority under the International Convention of 1883 and later modifications thereof, and to any Letters Patent to issue therefor, and I hereby request the Commissioner of Patents and Trademarks of the United States to issue to the University of Toledo any Letters Patent thereon, in accordance with the terms of this assignment.

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behalf for procuring in its name and ownership patents in all countries for the invention.

Alvin D. Compaan

Date: _____

Witness

Kent J. Price

Date: _____

Witness

Xianda Ma
Xianda Ma

Date: 7/24/01

Cathy Jher
Witness

Konstantin Makhratchev

Date: _____

Witness

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,852,614 B1
DATED : February 8, 2005
INVENTOR(S) : Alvin D. Compaan et al.

Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Title page.

Item [73], Assignee, delete "University of Maine" and insert -- University of Toledo --



Signed and Sealed this
Second Day of August, 2005

JON W. DUDAS
Director of the United States Patent and Trademark Office



UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

JUNE 18, 2004

PTAS

MACMILLAN, SOBANSKI & TODD, LLC
TED C. GILLESPIE
ONE MARITIME PLAZA, FOURTH FLOOR
720 WATER STREET
TOLEDO, OH 43604



POCKETED
By [Signature]

102616708A

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THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 11/26/2003

REEL/FRAME: 014748/0651
NUMBER OF PAGES: 2

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).
DOCKET NUMBER: 1-24016

ASSIGNOR:
COMPAAN, ALVIN D.

DOC DATE: 11/26/2003

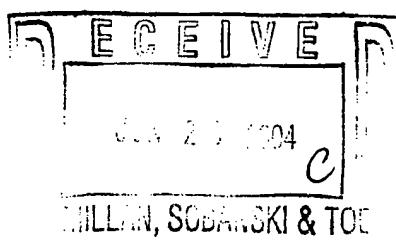
ASSIGNOR:
GUPTA, AKHLESH

DOC DATE: 11/26/2003

ASSIGNEE:
UNIVERSITY OF TOLEDO
2801 BANCROFT STREET
TOLEDO, OHIO 43606-3390

SERIAL NUMBER: 10722643
PATENT NUMBER:
TITLE: METHOD OF MAKING DIODE STRUCTURES

FILING DATE: 11/26/2003
ISSUE DATE:



014748/0651 PAGE 2

MARGARET LASALLE, PARALEGAL
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS

EXHIBIT

tabbles

B

Doc No.: 1-24016

ET

U.S. DEPARTMENT OF COMMERCE
Patent and Trademark OfficeFCTM PTC-1595 (Modified
(Rev. 03-01)
OMB No. 0651-0027 (exp.5/31/2002)
P08A/REV03

12-05-2003

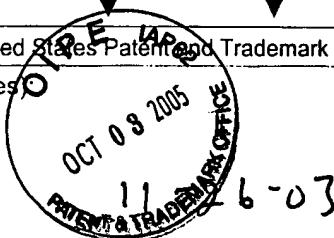


102616708

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1. Name of conveying party(ies):

Alvin D. Compaan and
Akhlesh Gupta

Additional names(s) of conveying party(ies)

 Yes No

3. Nature of conveyance:

Assignment Merger
 Security Agreement Change of Name
 Other _____

Execution Date: November 26, 2003

2. Name and address of receiving party(ies):

Name: University of ToledoAddress: 2801 Bancroft StreetCity: Toledo State/Prov.: OHCountry: US ZIP: 43606-3390Additional name(s) & address(es) Yes No

4. Application number(s) or patent numbers(s):

If this document is being filed together with a new application, the execution date of the application is: November 26, 2003

Patent Application No.

Filing date

B. Patent No.(s)

10/722643

Additional numbers

 Yes No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Ted C. GillespieRegistration No. 27,981Address: MacMillan, Sobanski & Todd, LLCOne Maritime Plaza, Fourth Floor720 Water StreetCity: Toledo State/Prov.: OHCountry: US ZIP: 436046. Total number of applications and patents involved: 17. Total fee (37 CFR 3.41):\$ 40.00 Enclosed - Any excess or insufficiency should be credited or debited to deposit account Authorized to be charged to deposit account

8. Deposit account number:

13-0005

(Attach duplicate copy of this page if paying by deposit account)

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9. Statement and signature.

*To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.*Ted C. Gillespie

Name of Person Signing

Ted C. Gillespie

Signature

November 26, 2003

Date

2

Total number of pages including cover sheet, attachments, and

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PATENT
1-24016

ASSIGNMENT

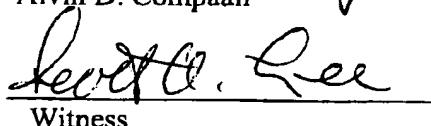
WHEREAS, we, Alvin D. Compaan of 4526 Vicksburg, Sylvania, OH 43560, and Akhlesh Gupta of 4825 New England Ln, #37, Sylvania, OH 43560, have invented an invention entitled METHOD OF MAKING DIODE STRUCTURES, for which we have executed an application for United States Letters Patent;

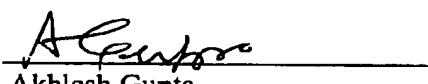
AND WHEREAS, the University of Toledo, 2801 Bancroft Street, Toledo, Ohio 43606-3390, is desirous of acquiring the entire interest in and to said invention and any Letters Patent to issue therefore;

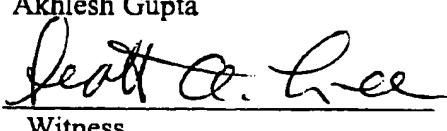
NOW, THEREFORE, to all whom it may concern, be it known that for and in consideration of the sum of One Dollar (\$1.00) and other valuable considerations to us in hand paid, the receipt whereof is hereby acknowledged, we, Alvin D. Compaan and Akhlesh Gupta do hereby sell, assign and transfer unto the said University of Toledo, its successors or assigns, the entire right, title and interest in and to said application and invention in the United States and all countries foreign thereto, including the right of priority under the International Convention of 1883 and later modifications thereof, and to any Letters Patent to issue therefor, and we hereby request the Commissioner of Patents and Trademarks of the United States to issue to the University of Toledo any Letters Patent thereon, in accordance with the terms of this assignment.

We agree to execute any and all documents required by the University of Toledo, its successors or assigns, for the prosecution of said application, or of any division, reissue or continuation thereof, or for securing foreign patents covering said invention, and also any documents required by it, its successors or assigns, more fully to vest in it or them the title to said invention, or to any application or patent that may be filed therefor or secured thereon. We hereby irrevocably appoint the University of Toledo as our attorney in fact to execute any documents on our behalf for procuring in its name and ownership patents in all countries for the invention.

 Date: 11-26-03
Alvin D. Compaan


Leath A. Lee
Witness


Akhlesh Gupta
Date: 11/26/03


Leath A. Lee
Witness



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MACMILLAN, SOBANSKI & TODD, LLC
TED C. GILLESPIE
ONE MARITIME PLAZA, FOURTH FLOOR
720 WATER STREET
TOLEDO, OH 43604



101829803A

UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 08/27/2001

REEL/FRAME: 012115/0351
NUMBER OF PAGES: 7

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:
COMPAAN, ALVIN D.

DOC DATE: 06/17/2001

ASSIGNOR:
PRICE, KENT J.

DOC DATE: 06/18/2001

ASSIGNOR:
MA, XIANDA

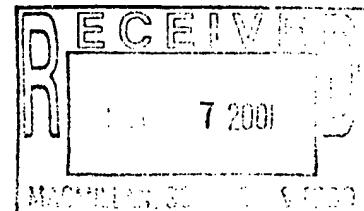
DOC DATE: 07/24/2001

ASSIGNOR:

ASSIGNEE:
UNIVERSITY OF TOLEDO
2801 BANCROFT STREET
TOLEDO, OHIO 43606

SERIAL NUMBER: 09815958
PATENT NUMBER:

FILING DATE: 03/23/2001
ISSUE DATE:



012115/0351 PAGE 2

MARY BENTON, EXAMINER
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS

C

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,852,614 B1
DATED : February 8, 2005
INVENTOR(S) : Alvin D. Compaan et al.

Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Title page.

Item [73], Assignee, delete "University of Maine" and insert -- University of Toledo --



Signed and Sealed this
Second Day of August, 2005

JON W. DUDAS
Director of the United States Patent and Trademark Office